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Amdt. dated January 05, 2006
Reply to Office action of November 07, 2005

REMARKS

Amendments to the Specification

      As directed in the office action summary, the following corrections were made to the specification. Comments made by the Examiner are marked in bold. No new matter was
5   added in the performed amendments.

In Section 7, lines 9-11: The sentence does not read clearly.

      An appropriate substitution of: "Accordingly, the stack memory is not adequate for complicated programs that need to call many subroutines" in accordance with the Examiners suggestion. No new matter was entered.

10   **In Section 7, Line 12: A space should be inserted between "of" and "subroutines".**

      An appropriate correction was made. The sentence now reads "Limited stack memory requires programs to call only a limited number of subroutines". No new matter was entered.

In Section 15, Line 1: "an" should be replaced with "the".

15   An appropriate correction was made. The sentence now reads "Please refer to Fig.3. Fig.3 is a schematic diagram of the internal memory of the processor 20 according to an embodiment of the present invention". No new matter was entered.

There are Multiple inappropriate references to components of the drawings.

      References to various components were appropriately added in the specification to
20   properly match the supplied drawings. In particular, multiple references of "internal data memory 12" were corrected to state "memory 12" to match Fig. 1 of the supplied drawings. Additionally, several sections were corrected for grammar and readability. Affected sections include: [0005], [0006], [0007], [0011], [0012], [0013], [0014], [0015], [0016], [0017] and [0018]. No new subject matter was introduced through the

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above-mentioned corrections.

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Response to Claim Rejections

Rejection of Claim 2 under U.S.C. 112

In response to the rejection made on Claim 2 under U.S.C 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant

5   regards as the invention, the applicant has provided the following response:

Claim 2 was amended to replace "Micro Computer System" with "microcontroller". The use of "Micro Computer System" was not originally intended to associate the invention with the trademark name of "Micro Computer System®", but to provide a limitation to the scope

10   of the claims as a microcontroller. Applicant kindly requests that the Examiner re-evaluate currently amended Claim 2 on its merits.

Rejection of Claim 1 under U.S.C. 102(b) as being anticipated by Welfeld (U.S Patent No. 6,167,047)

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Claim 1 has been currently amended to include additional limitations regarding the stack pointer generator. More specifically that the stack pointer generator is for producing a software stack pointer to access the stack memory when passing parameters to subroutines of the central processing unit (see Section [0006] lines 10-12, Section [0015]

20   lines 12-13, Fig. 4).

This amendment is fully supported by the original disclosure as filed, and no new matter is added. This amendment is considered by the applicant to more accurately define the scope of the subject matter that the inventors consider their invention.

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With this in mind, applicant asserts that Welfeld does not teach the inclusion of a software stack pointer to access the stack memory when passing parameters to subroutines of the central processing unit. The inclusion of a software stack pointer can

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allow the passing and storing of various data parameters as tracked by the software stack pointer, while the hardware stack pointer can track the storage of a machine cycle in the instruction set. This type of dynamic stack usage is not made possible without the teaching of a software stack pointer. For at least this reason, applicant asserts that the

5　present invention is not anticipated by Welfeld and kindly requests that the Examiner re-evaluate Claim 1.

Rejection of Claim 2 under U.S.C. 102(b) as being anticipated by Welfeld (U.S Patent No. 6,167,047) and Microsoft Computer Dictionary

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Concerning Claim 2, please note that this claim is dependant on the currently amended Claim 1. Should an allowance be made for the currently amended Claim 1, applicant kindly requests that the Examiner re-evaluate Claim 2 based on its merit. In addition, Claim 2 was amended in response of the Examiner rejection of U.S.C. 112 as described above. No new

15　subject matter was introduced through the above amendment.

Rejection of Claim 3 under U.S.C. 103(a) as being unpatentable over Welfeld (U.S Patent No. 6,167,047) as applied to Claim 1 above, and in further view of Anderson et al. (US Patent No. 3,969,724)

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Concerning the above, applicant asserts that Claim 3 is dependent upon currently amended Claim 1. Therefore, should an allowance be made for currently amended Claim 1, applicant kindly requests that Claim 3 be re-evaluated for its allowance.

25　As stated earlier, the invention of Welfeld does not teach the inclusion of a software stack pointer to access the stack memory when passing parameters to subroutines of the central processing unit. Because this concept is not disclosed by Welfeld, applicant asserts that it would not be obvious for a person of ordinary skill in the art to replace the

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processor taught by Welfeld with the central processing unit of Anderson to achieve the processor disclosed in the present invention.

Rejection of Claims 4 and 5 under U.S.C. 103(a) as being unpatentable over Welfeld
5   **(U.S Patent No. 6,167,047) and Anderson et al. (US Patent No. 3,969,724) as applied to Claim 3 above, and in further view of Shima et al. (US Patent No. 4,332,008)**

Concerning the above, applicant points out that Claims 4 and 5 are dependent upon Claim 3, which is in turn dependant on currently amended Claim 1. Therefore, should an
10   allowance be made for currently amended Claim 1 and dependant Claim 3, applicant kindly requests that Claims 4 and 5 be re-evaluated for their merits.

The rationale is as follows. Welfeld fails to disclose a software stack pointer to access the stack memory when passing parameters to subroutines of the central
15   processing unit. Because this concept is not disclosed by Welfeld, applicant asserts that it would not be obvious for a person of ordinary skill in the art to replace the processor taught by Welfeld with the central processing unit of Anderson, and to further replace the stack/data memory with that taught by Shima to achieve the processor disclosed in the present invention.
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Introduction of New Claims

The introduction of new Claims 6-12

5   To further highlight the uniqueness and novelties associated with the present invention, the applicant has introduced the additional Claims below.
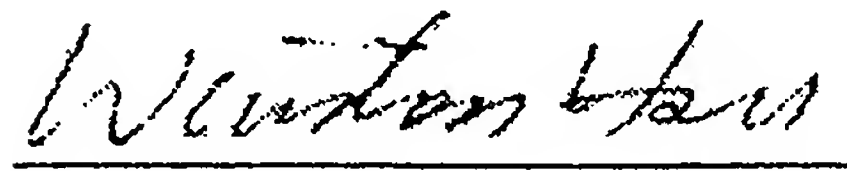
Claim 6 teaches the stack pointer generator further for incrementally increasing the stack pointer to point to a next address (Section [0016] lines 3-4) when used by the

10   central processing unit, and for decreasing the software stack pointer from a predetermined starting position (Section [0016] lines 5-6) when passing parameters to subroutines of the central processing unit.

In regards to Claims 7-12, please see Claims 1-6.

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The new Claims presented are fully supported by the original disclosure as filed with no additional subject matter added. These amendments are considered by the applicant to more accurately define the scope of the subject matter that the inventors consider their invention. Applicant kindly requests that the Examiner evaluate newly added Claims

20   6-12.

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Sincerely yours,

Date: ___01/05/2006___

5   Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C.

is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)

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